MICHIGAN ASSOCIATION OF HOME BUILDERS

TO: House Regulatory Reform Committee
FM: Lee Schwartz
Executive Vive President for Government Relations
Michigan Association of Home Builders

RE: HB 4561 and automatic approval of new products and technologies

The Michigan Association of Home Builders is a strong supporter of introducing new products and technologies into residential construction. MAHB members and the customers they work for benefit from the ability to voluntarily include advanced materials and techniques in the construction of new homes or the renovation of existing homes.

Rather than slow or stop the use of new products, HB 4561 will actually permit their use faster than the current process because it contains language that automatically allows for the use of new products and technologies provided for in an interim edition of one of the codes listed in the law without any further need for testing or state approval or payment of any fees, even if the state skips that edition. That language can be found on page 4, lines 14-19 of the H-1 substitute adopted by the committee last week.

Attached to this memo is Section M2302 of the 2012 International Residential Code. This section provides for the design, construction, installation, alteration and repair of photovoltaic equipment and systems and is an example of how the code allows for the use of new products and techniques without listing proprietary products.

HB 4561 would allow any photovoltaic solar energy system that complies with the requirements of this section to be used on any home in Michigan without the need for any further action by the state including adopting the 2012 Residential Code.

All new materials and products provided for in a new edition of a listed code would be treated the same way and their sale and use would allowed in Michigan in the same manner it would be if the state adopted that edition of the code.

CHAPTER 23

SOLAR ENERGY SYSTEMS

SECTION M2301
THERMAL SOLAR ENERGY SYSTEMS

M2301.1 General. This section provides for the design, construction, installation, *alteration* and repair of *equipment* and systems using thermal solar energy to provide space heating or cooling, hot water heating and swimming pool heating.

M2301.2 Installation. Installation of solar energy systems shall comply with Sections M2301.2.1 through M2301.2.9.

M2301.2.1 Access. Solar energy collectors, controls, dampers, fans, blowers and pumps shall be accessible for inspection, maintenance, repair and replacement.

M2301.2.2 Roof-mounted collectors. The roof shall be constructed to support the loads imposed by roof-mounted solar collectors. Roof-mounted solar collectors that serve as a roof covering shall conform to the requirements for roof coverings in Chapter 9 of this code. Where mounted on or above the roof coverings, the collectors and supporting structure shall be constructed of noncombustible materials or fire-retardant-treated wood equivalent to that required for the roof construction.

M2301.2.3 Pressure and temperature relief. System components containing fluids shall be protected with pressure- and temperature-relief valves. Relief devices shall be installed in sections of the system so that a section cannot be valved off or isolated from a relief device.

M2301.2.4 Vacuum relief. System components that might be subjected to pressure drops below atmospheric pressure during operation or shutdown shall be protected by a vacuum-relief valve.

M2301.2.5 Protection from freezing. System components shall be protected from damage resulting from freezing of heat-transfer liquids at the winter design temperature provided in Table R301.2(1). Freeze protection shall be provided by heating, insulation, thermal mass and heat transfer fluids with freeze points lower than the winter design temperature, heat tape or other *approved* methods, or combinations thereof.

Exception: Where the winter design temperature is greater than 32°F (0°C).

M2301.2.6 Expansion tanks. Expansion tanks in solar energy systems shall be installed in accordance with Section M2003 in closed fluid loops that contain heat transfer fluid.

M2301.2.7 Roof and wall penetrations. Roof and wall penetrations shall be flashed and sealed in accordance with Chapter 9 of this code to prevent entry of water, rodents and insects.

M2301.2.8 Solar loop isolation. Valves shall be installed to allow the solar collectors to be isolated from the remainder of the system. Each isolation valve shall be labeled with the open and closed position.

M2301.2.9 Maximum temperature limitation. Systems shall be equipped with means to limit the maximum water temperature of the system fluid entering or exchanging heat with any pressurized vessel inside the *dwelling* to 180°F (82°C). This protection is in addition to the required temperature- and pressure-relief valves required by Section M2301.2.3.

M2301.3 Labeling. *Labeling* shall comply with Sections M2301.3.1 and M2301.3.2.

M2301.3.1 Collectors. Collectors shall be *listed* and *labeled* to show the manufacturer's name, model number, serial number, collector weight, collector maximum allowable temperatures and pressures, and the type of heat transfer fluids that are compatible with the collector. The *label* shall clarify that these specifications apply only to the collector.

M2301.3.2 Thermal storage units. Pressurized thermal storage units shall be *listed* and *labeled* to show the manufacturer's name, model number, serial number, storage unit maximum and minimum allowable operating temperatures and pressures, and the type of heat transfer fluids that are compatible with the storage unit. The *label* shall clarify that these specifications apply only to the thermal storage unit.

M2301.4 Prohibited heat transfer fluids. Flammable gases and liquids shall not be used as heat transfer fluids.

M2301.5 Backflow protection. Connections from the potable water supply to solar systems shall comply with Section P2902.5.5.

SECTION M2302
PHOTOVOLTAIC SOLAR ENERGY SYSTEMS

M2302.1 General. This section provides for the design, construction, installation, alteration, and repair of photovoltaic equipment and systems.

M2302.2 Requirements. The installation, inspection, maintenance, repair and replacement of photovoltaic systems and all system components shall comply with the manufacturer's instructions, Sections M2302.2.1 through M2302.2.3 and NFPA 70.

M2302.2.1 Roof-mounted panels and modules. Where photovoltaic panels and modules are installed on roofs, the roof shall be constructed to support the loads imposed by such modules. Roof-mounted photovoltaic panels and modules that serve as roof covering shall conform to the requirements for roof coverings in Chapter 9. Where mounted on or above the roof coverings, the photovoltaic panels and modules and supporting structure shall be constructed of noncombustible materials or fire-retardant-treated wood equivalent to that required for the roof construction.

M2302.2.2 Roof and wall penetrations. Roof and wall penetrations shall be flashed and sealed in accordance with Chapter 9 to prevent entry of water, rodents, and insects.

M2302.2.3 Ground-mounted panels and modules. Ground-mounted panels and modules shall be installed in accordance with the manufacturer's instructions.

M2302.3 Photovoltaic panels and modules. Photovoltaic panels and modules shall be listed and labeled in accordance with UL 1703.

M2302.4 Inverters. Inverters shall be listed and labeled in accordance with UL 1741. Systems connected to the utility grid shall use inverters listed for utility interaction.